Records of Parasitism by Members of the Family Tachinidae (Diptera: Tachinidae)

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ABSTRACT

About 84 species of Tachinidae are recorded from approximately 61 hosts. The latter belong to the following orders: Mantodea 1, Orthoptera 1, Hemiptera 1, Coleoptera 8, Lepidoptera 47, and Hymenoptera 3. Data are given on the relationship of tachinid and host, distribution and monthly occurrence of the flies.

INTRODUCTION

Over a period of many years tachinid adults have been bred from insects under investigation in the laboratories of the N.S.W. Department of Agriculture and added to the insect collection, for which the authors were formerly responsible. Many of the hosts, especially in the Order Lepidoptera, are pest species, consequently the data may be of interest in applied entomology.

Initials are used for the following collectors: T. V. Bourke, C. E. Chadwick, W. W. Froggatt, G. J. Goodyer, L. R. Greenup, J. T. Hamilton, M. S. Moulds, H. E Osburne, V. J. Robinson and W. E. Wright. Other collectors are named in full.

When R. W. Crosskey was revising the Australian Tachinidae, numerous specimens were sent to him at the British Museum (Natural History) for determination. Since then some identifications have been made by K. M. Harris and B. Cantrell; these are indicated by bracketed initials.

Genera are arranged alphabetically in the parasite-host list and the order and family of the host mentioned only in the first recording. The nomenclature is that of Crosskey (1973).

ABBREVIATIONS

Insect orders are abbreviated as follows:

C. = Coleoptera
He. = Hemiptera

Hy. = Hymenoptera
L. = Lepidoptera
M. = Mantodea
O. = Orthoptera
The abbreviation n.d. means no date given.

PARASITIC GENERA OF THE FAMILY TACHINIDAE RECORDED HEREIN

Subfamily PHASIINAE

Phasiini: *Alophora.* Leucostomatini: *Leucostoma.*

Subfamily PROSENINAE

Prosenini: *Senostoma.*

Subfamily TACHININAE

Palpostomatini: *Palpostoma.* Campylochetini: *Elpe.* Voriini: *Voria.* Leskiini: *Apatempia.* Linnaemyini: *Chaetophthalmus.* Tachinini: *Microtropesa.*

Subfamily GONIINAE

Acemyini: *Ceracia.* Neaerini: *Voriella.* Siphonini: *Actia, Ceromyia, Peribaea.* Blondeliini: *Anagonia, Compsilura, Medinodexia, Monoleptophaga,* genus near *Pareupogona, Trigonospila.* Exoristini: *Austrophorocera, Eozenillia, Exorista, Stomatomyia.* Winthemiini: *Winthemia.* Carceliini: *Carcelia, Carcelimyia.* Anacamptomyiini: *Anacamptomyia.* Sturmiini: *Anamastax, Blepharipa, Palexorista, Paradrino, Sisyropa, Sturmia, Tritaxys, Zygobothria.* Goniini: *Coniopthalmus.* Eryciini: *Alomyia, ?Austrophyno, Chlorogastropsis, Teretrophora.*

PARASITE-HOST RELATIONSHIPS

Actia eucosmae Bezzi. Ex larva *Crocidosema plebeiana* Zell., (L., Tortricidae), Wee Waa, 20/1/63, D. Taylor.

Alophora lepidofera (Mall.). Ex adults *Nysius vinitor* Berg., (He., Lygaeidae), Leeton, 1/11/71.

Anacamptomyia nigriventris (Mall.). Ex *Polistes tasmaniensis* Sauss., (Hy., Vespidae), Ryde, 18/4/50; ex nest *Polistes* sp., Canyon Camp, Warrumbungle Nat. Pk., 15, 22/5/67. C.E.C.

Anagonia sp. nr. *lateralis* (Macq.). Ex adult *Bryachis squamicollis* Pasc., (C., Curculionidae), Dubbo, 24/1/09.

Anagonia sp. Depositing egg on paropsine larva, (C., Chrysomelidae), Mt. Wilson, 14/2/60, C.E.C.

Anamastax sp. nov. Ex larvae *Panacela lewinae* (Lew.), (L., Eupterotidae), Bilpin, 29/11/71, 10/12/71, P. Smart (collected on *Eucalyptus* sp.)

Apatemyia ?sp. nov., nr. *longiceps* Macp. Ex larva *Phloeoglymma dorsalis* (Pasc.), (C., Curculionidae), Brooklyn, 10/8/69, 22/10/69, 2/12/69, C.E.C. Host larva boring in stem *Astrotricha floccosa* coll. 13/7/69.

Aplomya sp. Ex larva *Zizina otis labradus* (Godt.), (I., Lycaenidae), Camden, 1/3/72, G.J.G. (K.M.H.).

Austrophorocera grandis (Macq.). Ex cocoon *Doratifera vulnerans* (Lew.), (L., Limacodidae), Medowie, 18/10/01, Miss Cole, (B.C.); ex *D. vulnerans,* Northwood, 20/12/27, A. R. Woodhill; ex *D. vulnerans,* Port Stephens, 24/10/38, (B.C.); ex cocoon *D. ?quadriguttata* Walk., Rydalmere, 29/6/65, C.E.C.

A. sp. nr. *grandis.* Ex cocoon *D. casta* Scott, Wagga, 18/1/60, J. R. Sutherland.

A. sp. 1. Ex *Doratifera* sp., Moore, 1918, W.W.F.

A. sp. 2. Ex anthelid larva, Roseville, 14/3/72, C.E.C. (K.M.H.).

?Austrophyrno sp. Ex *Perga* sp., (Hy., Pergidae), Upper Kangaroo Valley 25/3/51, C.E.C.

Blepharipa fulviventris (Macq.). Ex pupa *Papilio aegeus aegeus* Don., (L. Papilionidae), Cronulla, 3/4/57; do., Collaroy, 2/1/62, M. J. Gaven; ex *Theretra nessus* (Drury), (L., Sphingidae), Bellingen, 8/7/66, V.J.R.

B. sp. nr. *fulviventris* (Macq.). Ex cocoon *Anthela acuta* Walk., (L., Anthelidae), North Ryde, 19/3/75, C.E.C.

B. sp. *sugens* group. Ex pupa *Graphium sarpedon choredon* (Feld.), (L., Papilionidae), Greenwich, n.d., M.S.M. (K.M.H.).

B. sp. 1. Ex larva *Teia anartoides* Walk., (L., Lymantriidae), Rydalmere, 15/12/64.

B. sp. 2. Ex pupa *Papilio aegeus aegeus,* Newport Beach, 22/3/64, B. Welch.

Carcelia illota (Curran). Ex lorva *Heliothis* sp., (L., Noctuidae), Coffs Harbour, 2/1/40.

C. murina (Curran). Ex *Anthela* sp., Uralla, 30/9/15, W.W.F.; ex pupa *Anthela varia* Walk., 5 km. North of Barringun, 8/12/68. V.J.R.: ex pupa *Anthela* sp., Paroo River, 10/3/74, V.J.R.

**C.* sp. 1. Ex cocoon *?Anthela acuta,* Wollongong, 17/10/50, C.E.C. *(*acteosa*).

**C.* sp. 2. Ex *Delias aganippe* Don., (L., Pieridae), Glen Innes, 17/3/68 M.S.M. *(*kindaitchin*).

**C.* sp. 3. Ex cocoon *Teia anartoides,* Sydney,-/3/09.

Carcelimyia dispar (Macq.). Ex *Panacela lewinae,* Cataract Dam, 15/12/64, V.J.R.

* To be named in forthcoming paper by B. Cantrell.

Ceracia fergusoni (Mall.). Ex *Chortoicetes terminifera* (Walk.), (O., Acrididae), Condobolin, 19/6/28, J.T.G. Avel; do., Curban, nr. Gilgandra, 23/2/70, (lab. bred), M. Casimir; do., Wilbur Downs, nr. Coonamble, 10/2/71, (lab. bred), C. Gauchat; do., do., 25/5/71, 29/6/71, (lab. bred), C. Gauchat.

Ceromya norma (Mall.). Ex *Mythimna convecta* (Walk.), (L., Noctuidae), (parasite pupated externally), Griffith, 24/3/67, D. Wallin; do., Rydalmere, 28/9/67, L.R.G.; do., Kangaroo Valley, 15/11/67, L.R.G.

C. parviseta (Mall.). Ex *Isotenes miserana* (Walk.), (L. Tortricidae), Kurnell, 17/10/70, V.J.R.

Chaetophthalmus bicolor (Macq.). Ex jar of soil in which larvae of *Agrotis infusa* (Boisd.) had been bred out, Red Range, nr. Glen Innes, late Dec. 1950, (B.C.); ex *Sericesthis geminata* Boisd., (C., Scarabaeidae), 11/10/57, T.V.B. (B.C.) DOUBTFUL); ex late instar *Agrotis munda* Walk., (L., Noctuidae), Rydalmere, 16/12/71.; ex larva *Agrotis munda,* Rydalmere, early December 1971, G.J.G., (B.C.).

C. biseriatus Mall. Ex pupa *Persectania ewingii* (Westw.), Sutton Forest, 1/1/65, K. Giles, (B.C.); ex larva *Heliothis* sp., Narrabri, 11/10/68, J.T.H.; ex larva *Heliothis* sp., 13/10/71, G.J.G., (B.C.); ex larva *Heliothis punctigera,* Cowra, 26/11/71, G.J.G., (B.C.); ex late instar larva *Heliothis* sp., Narrabri, -/3/73, J.T.H.

C. sp. Ex *Mythimna convecta,* Berry, 5/1/67, L.R.G., (parasite pupated externally).

C. sp. Ex larva *Heliothis* sp., Bathurst, 18/1/67, L.R.G. (parasite pupated externally).

Chlorogastropsis orga (Walk). Ex *Oiketicus elongatus* Saund., (L. Psychidae), N.S.W. 18/10/16; do., Sydney -/2/28, W. B. Gurney; do., Heathcote, 7/2/50, C.E.C.; do., Greenacre, -/8/58, T.V.B.; do. (larva), Merrylands, 28/7/60; do., West Ryde, 2/10/63, L. F. Pratt; do., Wollongong, 18/1/65, V.J.R.; do., Helensburgh, -/10/68, H.E.O.

Chlorogastropsis sp. nov. Ex *Araeostoma aenicta* Turn., (L., Xyloryctidae), Windang, 15/9/66, V.J.R.

Compsilura concinnata (Meig.). Ex *Isotenes miserana* (=*Cacoecia australana*), Northwood, -/1/29, A. R. Woodhill; ex *Doratifera vulnerans,* Manly, 10/9/41; ex pupa *Artogeia rapae* (L.), (L., Pieridae), Windsor, -/5/72, J.T.H.; ex armyworm (L., Noctuidae), Murwillumbah, 30/5/55, B. M. Braithwaite.

Elpe sp. Ex *Panacela lewinae,* Cowra Dist., 1904.

Eozenillia remota (Walk.). Ex *Hyalarcta huebneri* (Westw.), (L., Psychidae), Maroubra, -/9/23, E. H. Zeck; do., Armidale, 3/3/34; ex case *H. nigrescens* (Doubld.), Cowra, 17, 24/4/52; do., Gosford, 17/7/67, P. C. Hely; ex *Anthela ariprepes* Turn., (L., Anthelidae), 5 km N. of Barringun, (n.d.), V.J.R.

Exorista coras (Walk.). Ex *Pseudomatis albofimbriata* Stal, (M., Mantidae), Roseville, ?19/11/58, C.E.C.

E. curriei (Curran). Ex larva *Heliothis punctigera,* Cowra, 26/11/71, G.J.G. (B.C.).

E. flaviceps Macq. Ex larva *Uraba lugens* Walk., (L., Nolidae), Tamworth, 19/11/53, L. F. Pratt.

E. psychidivora (Coq.). Ex pupa *Phalaenoides glycine* Lew., (L., Agaristidae), Richmond, -/12/02, 15/1/03, 20/1/03, W. B. Gurney; ex *Hyalarcta nigrescens* (="*Thyridopteryx herrichi*"), Yanco, -/6/16; ex larva *Teara contraria,* Broken Hill, 5/7/68; (All B.C.).

E. sorbillans (Wied.). Ex *Spodoptera exempta* (Walk.), (L., Noctuidae), Wagga, 5/7/63.

Goniophthalmus australis (Bar.). Ex pupa *Spodoptera exempta,* Uki, 8/3/66, L.R.G.; do., Warrell Ck., 19/4/66, L.R.G.

G rufescens (Bar.). Ex *Neocleptria punctifera* Walk., (L. Noctuidae), Warren, 16, 30/6/39.

Leucostoma simplex (Fallen). Ex adults *Nysius vinitor,* Leeton, 1/11/71.

Medinodexia morgani (Hardy). Ex adult *Aulacophora hilaris* (Boisd.), (C., Chrysomelidae), Biniguy, 22/2/30, W. L. Morgan, (lectotype and paralectotype); do., Narara, 11/11/31, 21/11/31, W. L. Morgan.

Microtropesa flaviventris Mall. Ex larva *Mythimna convecta* (="*Cirphis unipuncta* Haw."), Newbridge, -/1/35, N. S. Noble; ex pupa *Persectania ewingii,* Albury, 25/11/65, R. J. Flynn; ex larva *P. ewingii,* Sutton Forest, 15/12/65, G. Giles; ex *Mythimna convecta,* Taree, 25/4/66, L.R.G.; ex larva *Persectania ewingii,* Sydney, 20/10/67, F. McDonald.

Monoleptophaga caldwelli Bar. Ex *Monolepta australis* (Jac.), (C., Chrysomelidae), Lismore, 16/10/92, D. McDonald.

Palexorista macquarti (Cross.). Ex *Doratifera* sp., Yenda, 4/4/51, Stanton (host from leaves *Eucalyptus crebra*).

P. sp. nr. *macquarti* (Cross.). Ex pupa *Digglesia australasiae* (F.), (L., Lasiocampidae), Beecroft, 18/2/72, C.E.C.

P. sp. nr. *macquarti* (Cross.). Ex larva Sphingidae, Sydney 2/7/59; ex pupa *Digglesia australasiae,* Beecroft, 18, 19-20/2/72, C.E.C.

P. spp. Ex sphingid on grape vine, Trundle, 2/5/28; ex noctuid larva, Hartley Vale, 23/1/28; ex *Spodoptera exempta,* Grafton, 7/4/36; ex case moth, Yass, 3/11/54; ex *Persectania* sp., Albury, 25/11/65, R. J. Flynn; do., Sydney University, 20/11/66, L.R.G.; ex *Archernis mitis* Turn., (L., Pyralidae),

Grafton, 15, 16/2/67; *Mythimna convecta,* Oakville, 13, 14, 15, 16/3/67, L.R.G.

Palpostoma prob. *subsessile* Mall. Ex adult *Metanastes blackburni* Arrow, (C., Scarabaeidae), Kempsey, 20/9/40; ex adult *Heteronychus arator* (F), (C., Scarabaeidae), Kempsey, 20/9/40.

P. testaceum R.-D. Ex adult *Heteronychus arator,* Maclean, 17/9/53, W.E.W.

Palpostoma sp. ex adult *Metanastes blackburni,* Woy Woy, 25/12/31, R. W. Burrell; do Kempsey, 20/9/40; ex dead adult *Heteronychus arator,* Kangaroo Valley, 26/8/53, W.E.W.

Paradrino laevicula Mesnil. Ex *Delias aganippe* Don., (L., Pieridae), Glen Innes, 4/3/67, M.S.M.

Gen. nr. *Pareupugona.* Ex *Anthela acuta,* Wollongong, 18/4/63, V.J.R.

Peribaea argentifrons (Mall.). Ex *Copromorpha prasinichroa* Meyr., (L., Copromorphidae), Minnamurra Falls, 1/7/69, V.J.R.

P. plebeia (Mall.). Ex larva *?Anthela* sp., Roseville, 27-29/11/71, C.E.C.

Senostoma sp. Ex adult *Sericesthes geminata* Boisd., (C., Scarabaeidae), Dorrigo, 24/9/57, T.V.B.

Sisyropa sp. Ex either pupa or larva *Hymenia recurvalis* (F.), (L., Pyralidae), Graman, 20/5/59, T.V.B.

Stomatomyia tricholygoides Bezzi. Ex *Mythimna convecta* (="*Cirphis unipuncta* Haw."), Gerringong, 25/2/47, J. A. Wright; ex larva *Loxostege affinitalis* (Led.), (L., Pyralidae), Garah, 7/4/34; ex *Amata* sp. *?xanthura* Turn., (L., Amatidae), Werris Ck., 2/10/53; ex *Spodoptera exempta,* Warrell Ck., 19/4/66, L.R.G.; ex *Mythimna convecta,* Taree, 20/4/66, L.R.G.

Sturmia convergens (Wied.). Ex pupa *Danaus plexippus plexippus* (L.), (L., Nymphalidae), Cobbitty, 27, 30/5/62, E. B. Skreen.

Teretrophora fasciata Macq. Ex *Garrha hemiteles* (Meyr., (L. Oecophoridae), Mt. Keira, 10/10/70, V.J.R.; ex *Philobota fascialis* F., (L., Oecophoridae), Mt. Keira, 24/9/70, V.J.R.

Trigonospila brevifascies Hardy. Ex *Garrha hemiteles,* Carrington Falls, 9/10/70, V.J.R.

Tritaxys heterocera (Macq.). Ex (probably) larva *Plutorectis caespitosae* Oke, (L., Psychidae), Mt. Kosciusko, 8/6/47, A. Williams.

T. scutellata (Macq.) Ex *Mythimna convecta* ("*Leucania = Cirphis unipuncta* Haw."), 1903; do., ("*Cirphis unipunctata*"), Bellingen, 7/3/31; do., Newbridge, -/1/35; do., Albion Park, -/3/36; ex larva *Agrotis* sp., (L., Noctuidae),

Wyong, 25/9/40; ex *Mythimna convecta,* Windsor, 30/10/47, C.E.C.; do., (emerged from jar containing larvae and pupae), Shellharbour, -/4/49, C. R. Wallace; ex *Mythimna convecta,* Inverell, 10/12/66, L.R.G., (parasite pupated externally); do., Kangaroo Valley, 29, 30/12/66, 2/11/67, L.R.G. (parasite pupated externally); do., Berry, 16/1/67, L.R.G., (parasite pupated externally); do., Ourimbah, 21/4/67, L.R.G., (parasite pupated externally); do., (ex pupa), Nowra, 10/12/67, L.R.G., (parasite pupated externally).

T. milias (Walk.). Ex larva of Noctuidae, Sydney, 6/1/27; ex jar of soil in which larvae of *Agrotis infusa* were bred out, Red Range, nr. Glen Innes, early January 1951; ex larva *Persectania ewingii,* Berrigan, 14/12/53, G. R. Godden; ex *Agrotis infusa,* Parkes, 5/10/65, L.R.G.; do., Dalgety, 23/11/70, I. Collett.

T. sp. ?nov. Ex pupa *Persectania ewingii, Albury,* 19/12/65, R. J. Flynn.

Voria ruralis (Fallen). Ex *Chrysodeixis* (=*Phytometra*) *argentifera* Guen., (L., Noctuidae), Royal Botanic Gardens, Sydney, 1-17/12/48, R. New; do., Texas, Qld., -/1/49, W. L. Morgan; do., (ex larva), Erina Hts., 29/10/63, J. G. Gellatley; do., (ex pupa), Narrabri A.R.S., 4/2/69, W.E.W.

Voriella uniseta Mall. Ex lucerne infested with *Merophyas* (=*Tortrix*) *divulsana* (Walk.), (L., Tortricidae), Richmond, 14/12/54, R. D. Power; ex *Epiphyas postvittana* (Walk.), (L., Tortricidae), Bathurst, 11/4/56, N. C. Lloyd; ex larva *Cydia molesta* (Busck), (L., Tortricidae), Castlereagh, 16/2/61, M. J. Gaven.

Voriella sp. Ex *Epiphyas postvittana,* Bundanoon, 28/1/71, V.J.R.

Winthemia lateralis (Macq.). Ex larva *Agrotis* ("*Euxoa*") sp., Wyong, 25/9/40, (B.C.); ex *Mythimna convecta* (="*Cirphis unipuncta* Haw."), Wyong, 25/9/40, (B.C.).

W. neowinthemoides (Towns.). Ex pupa *Euploea core* (Cram.), (L., Nymphalidae), Newcastle, 29/3/50; ex *Danaus plexippus plexippus,* Sydney, -/4/53; ex pupa *Euploea core,* Kempsey, 8/6/53, F. C. McLeary; ex larva *Leptocneria reducta* (Walk.), (L., Lymantriidae), Penrith, 16/5/60, M. J. Gaven; ex pupa *Danaus plexippus plexippus,* Cobbitty, 30/5/62, E. B. Skreen; ex *Delias aganippe,* Glen Innes, 3/3/67, M.S.M.; ex *Danaus plexippus plexippus* Wollongong, -/4/67; ex *Mythimna convecta,* Nowra, 10/12/67; ex *Danaus plexippus plexippus,* Greenwich, 1971, M.S.M. (All B.C.).

Zygobothria atropivora (R.-D.). Ex *Psilogramma menephron* (Cramer) (="*Macrosila casuarina*",) Sydney, n.d.

HOST-PARASITE RELATIONSHIPS

MANTODEA

MANTIDAE

Pseudomantis albofimbriata: *Exorista coras.*

ORTHOPTERA

ACRIDIDAE

Chortoicetes terminifera: *Ceracia fergusoni*

HEMIPTERA

LYGAEIDAE

Nysius vinitor: *Alophora lepidofera, Leucostoma simplex.*

COLEOPTERA

SCARABAEIDAE

Sericesthis geminata: *Chaetophthalmus bicolor, Senostoma* sp.
Heteronychus arator: *Palpostoma* prob. *subsessile, P. testaceum.*
Metanastes blackburni: *Palpostoma* prob. *subsessile, Palpostoma* sp.

CHRYSOMELIDAE

Aulacophora hilaris: *Medinodexia morgani.*
Monolepta australis: *Monoleptophaga caldwelli.*
Paropsinae: *Anagonia* sp.

CURCULIONIDAE

Bryachus squamicollis: *Anagonia* sp. nr. *lateralis.*
Phloeoglymma dorsalis: *Apatemyia* ?sp. nov. nr. *longipes.*

LEPIDOPTERA

TORTRICIDAE

Crocidosema plebeiana: *Actia eucosmae.*
Cydia molesta: *Voriella uniseta.*
Epiphyas postvittana: *Voriella uniseta, Voriella* sp.
Isotenes miserana: *Ceromya parviseta, Compsilura concinnata.*
Merophyas divulsana: *Voriella uniseta.*

PSYCHIDAE

Hyalarcta huebneri: *Eozenillia remota.*
H. nigrescens: *Eozenillia remota, Exorista psychidivora.*
Oiketicus elongatus: *Chlorogastropsis orga.*
Psychidae: *Palexorista* sp.

OECOPHORIDAE

Garrha hemiteles: *Teretrophora fasciata, Trigonospila brevifascies.*
Philobota fascialis: *Teretrophora fasciata.*

XYLORYCTIDAE

Areostoma aenicta: *Chlorogastropsis* sp.

COPROMORPHIDAE

Copromorpha prasinichroa: *Peribaea argentifrons.*

LIMACODIDAE

Doratifera casta: *Austrophorocera* sp. nr. *grandis.*
D. ?quadriguttata: *Austrophorocera grandis.*
D. vulnerans: *Austrophorocera grandis, Compsilura concinnata.*
***Doratifera* sp.:** *Austrophorocera* sp., *Palexorista macquarti.*

PYRALIDAE

Archernis mitis: *Palexorista* sp.
Hymenia recurvalis: *Sisyropa* sp.
Loxostege affinitalis: *Stomatomyia tricholygoides.*

PAPILIONIDAE

Graphium sarpedon choredon: *Blepharipa* sp. *sugens* group.
Papilio aegeus aegeus: *Blepharipa fulviventris, Blepharipa* sp. 2.

PIERIDAE

Artogeia rapae: *Compsilura concinnata.*
Delias aganippe: *Carcelia* sp. 2, *Paradrino laevicula, Winthemia neowinthemoides.*

NYMPHALIDAE

Danaus plexippus plexippus: *Sturmia convergens, Winthemia neowinthemoides.*
Euploea core corinna: *Winthemia neowinthemoides.*

LASIOCAMPIDAE

Digglesia australasiae: *Palexorista* sp. nr. *macquarti.*

ANTHELIDAE

Anthela acuta: *Blepharipa* sp. nr. *fulviventris,* gen. nr. *Pareupogona.*
A. ariprepes: *Eozenillia remota.*
A. varia: *Carcelia murina.*
***Anthela* sp.:** *Carcelia murina.*
***?Anthela* sp.:** *Peribaea plebeia.*
Anthelid larva: *Austrophorocera* sp. 2.

EUPTEROTIDAE

Panacela lewinae: *Anamastax* sp. nov., *Carcelimyia dispar; Elpe* sp.

SPHINGIDAE

Psilogramma menephron: *Zygobothria atropivora.*
Theretra nessus: *Blepharipa fulviventris.*
Sphingidae: *Palexorista* sp. nr. *macquarti; Palexorista* sp.

NOTODONTIDAE

Teara contraria: *Exorista psychidivora.*

LYMANTRIIDAE

Leptocneria reducta: *Winthemia neowinthemoides.*
Teia anartoides: *Blepharipa* sp. 1; *Carcelia* sp. 3.

AMATIDAE

Amata* sp. *?xanthura: *Stomatomyia tricholygoides.*

NOLIDAE

Uraba lugens: *Exorista flaviceps.*

NOCTUIDAE

Agrotis infusa: *Chaetophthalmus bicolor; Tritaxys milias.*
A. munda: *Chaetophthalmus bicolor.*
***Agrotis* sp.:** *Tritaxys scutellata, Winthemia lateralis.*
Chrysodeixis argentifera: *Voria ruralis.*
Heliothis punctigera: *Chaetophthalmus biseriatus, Exorista currei.*
***Heliothis* sp.:** *Carcelia illota, Chaetophthalmus biseriatus.*
Mythimna convecta: *Ceromya norma, Chaetophthalmus biseriatus, Microtropesa flaviventris; Palexorista* sp.; *Stomatomyia tricholygoides; Tritaxys scutellata; Winthemia lateralis; W. neowinthemoides.*
Neocleptria punctifera: *Goniophthalmus rufescens.*
Persectania ewingii: *Chaetophthalmus biseriatus, Microtropesa flaviventris, Tritaxys milias.*
Spodoptera exempta: *Exorista sorbillans; Goniophthalmus australis; Palexorista* sp.; *Stomatomyia tricholygoides.*
Noctuidae: *Palexorista* sp.; *Tritaxys milias.*
Armyworm; *Compsilura concinnata.*

AGARISTIDAE

Phalaenoides glycine: *Exorista psychidivora.*

HYMENOPTERA

PERGIDAE

***Perga* sp:** *?Austrophyrno* sp.

VESPIDAE

Polistes tasmaniensis: *Anacamptomyia nigriventris.*
Polistes sp. (nest): *Anacamptomyia nigriventris.*

DISCUSSION

Since it has not always been possible to identify either the tachinid or the host to specific level, some of the numerical data have to be regarded as approximate. Also in a few cases some of the locality records are indefinite, e.g. where New South Wales is given.

Four tachinid subfamilies were recognised by Crosskey (1973): Phasiinae, Proseninae, Tachininae and Goniinae. Members of the latter subfamily occur most frequently in the data recorded for the various insect orders.

Host Relationships

MANTODEA. The only recorded species, *Exorista coras,* is one of the Goniinae.

ORTHOPTERA. *Ceracia fergusoni,* the only species mentioned here, is also a member of the Goniinae.

HEMIPTERA. *Alophora lepidofera* and *Leucostoma simplex* belong to the Phasiinae.

COLEOPTERA Scarabaeidae: of the three genera involved, *Senostoma* is one of the Proseninae, the other two being Tachininae. Chrysomelidae: the three genera having relevance are Goniinae (Blondeliini). Curculionidae: one species is a member of the Goniinae, the other of the Tachininae.

LEPIDOPTERA. In this order only four genera (*Chaetophthalmus, Voria, Microtropesa* and *Elpe*) belong to the Tachininae, the other 27 genera are Goniinae.

In the records quoted above, tachinids have, with one exception, attacked only one order of insects. However T.V. Bourke bred a specimen of *Chaetophthalmus bicolor* from the scarab *Sericesthis geminata,* while all other records of the genus are from Noctuidae. On this subject Cantrell (pers. comm.) has commented: "It cannot be absolutely ruled out as an incorrect record as tachinids sometimes "make a mistake" and attack a "wrong" host, yet are able to successfully complete development. The occasional rearing of *Exorista* spp. from mantids and tettigoniid grasshoppers are good examples. .....the record needs to be confirmed and should be treated with caution."

Regional Distribution

The Commonwealth Bureau of Meteorology divides the State into four regions. The distribution of bred flies in these areas is as follows: Coast 119 occurrences, from 65 localities; Tablelands 12 and 17; Western Slopes 9 and 17; Western Plains 18 and 26 respectively. Data on species are very often confined to one record and obviously cannot be regarded as final.

Two species, *Eozenillia remota* and *Tritaxys milias,* have been found in the four climatic areas of the State. *Stomatomyia tricholygoides* has not been noted from the Tablelands, but occurs in the other three regions, and *Tritaxys heterocera* is missing from the Western Plains only.

The following species are noted from two regions: *Anacomptomyia nigriventris* and *Microtropesa flaviventris* Coast and Western Slopes; *Ceromya norma, Medinodexia morgani* and *Voria ruralis,* Coast and Western Plains; *Carcelia murina,* Tablelands and Western Plains.

Six species are noted from the Coast only: *Austrophorocera grandis* (2 records), *Blepharipa fulviventris* (3), *Chlorogastropsis orga* (7), *Compsilura concinnata* (4), *Goniophthlmus australis* (2), and *Winthemia winthemoides* (6).

Monthly Distribution

Emergences have been recorded in all months with an expected falling off in the cooler months as indicated by the following data: January (20 emergences), February (15), March (22), April (18), May (10), June (8), July (8), August (3), September (14), October (20), November (17) and December (20).

A number of factors influence records of geographic and seasonal distribution and any information on this subject reflects the information available at the time the study is made. Naturally future investigators with fuller data may indicate a need to modify present views on the subject, for example where a species is recorded from the Coast and Western Plains it would cause no surprise if it also occurs in the two intervening regions.

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